

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (Canceled).

Claim 12 (New): A process for separating butenes and butanes by extractive distillation using a polar extractant by

- a) extractively distilling a stream comprising butenes and butanes using a polar extractant to obtain a top fraction comprising butanes and a bottom fraction comprising butenes and the polar extractant and
- b) destillatively separating the bottom fraction from a) into a lower boiler fraction which comprises the butenes and a high boiler fraction which comprises the polar extractant,

being recycled the high boiler fraction from b) comprising the polar extractants, into the extraction stage a),

wherein, some or all of the low boiler fraction of stage b) is separated in a second separating stage c) into a butene-containing fraction and a fraction comprising the polar extractant, and the fraction comprising the polar extractant is recycled into the distillative separation of stage b).

Claim 13 (New): The process as claimed in claim 12, wherein the distillative separation of stage b) is carried out at a pressure of from 0.5 to 5 bar.

Claim 14 (New): The process as claimed in claim 12, wherein a portion of the low boiler fraction of stage b) is recycled into the extraction stage a).

Claim 15 (New): The process as claimed in claim 14, wherein the recycle ratio of stage b) to stage a) is 0.01-0.5 kg/kg.

Claim 16 (New): The process as claimed in claim 14, wherein the portion of the low boiler fraction b) recycled into stage a) is compressed to the working pressure of stage a).

Claim 17 (New): The process as claimed in claim 12, wherein the recycle ratio of stage c) to stage b) is 0.001 – 0.1 kg/kg.

Claim 18 (New): The process as claimed in claim 12, wherein the second separating stage c) is effected by distillation at a pressure of 1-5 bar.

Claim 19 (New): The process as claimed in claim 12, wherein the second separating stage c) is effected by cooling the low boiler fraction from stage b) to from -10 to +55°C.

Claim 20 (New): The process as claimed in claim 12, wherein the polar extractant is used anhydrously or in a mixture with from 0.1 to 20% by weight of water.

Claim 21 (New): The process as claimed in claim 12, wherein the polar extractant used is dimethylformamide, N-methylpyrrolidone, acetonitrile, furfural, N-formylmorpholine or dimethylacetamide.